

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A vaporizer comprising:

a vaporizing chamber including a vaporizing surface configured to vaporize a liquid material;

a spray portion configured to spray the liquid material in the vaporizing chamber;

a delivery part attached to the vaporizing chamber and including a gas outlet to deliver a gas material generated inside the vaporizing chamber to a source material supply line;

first heating portion configured to heat the vaporizing chamber; and

a second heating portion configured to heat a wall of the delivery part,

wherein the delivery part comprises

a filter member covering the gas outlet and including a peripheral portion set in thermal contact with and fixed to the wall of the delivery part, and

a heat transfer member set in thermal contact with the filter member at a position other than a peripheral portion and configured to transfer heat of the second heating portion to the filter member,

wherein the second heating portion and the filter member are separated from each other, and the heat transfer member is disposed between the second heating portion and the filter member and supports the filter member,

wherein the vaporizer further comprises a shield plate covering the filter member and disposed farther from the gas outlet than is disposed the filter member, and

wherein the shield plate is fixed to the heat transfer member along with the filter member with a spacer interposed between the shield plate and the filter member such that the

shield plate receives heat through the heat transfer member and the spacer from the second heating portion.

Claim 2 (Previously Presented): The vaporizer according to claim 1, further comprising a control member configured to control temperature of the second heating portion based on temperature of the heat transfer member or the filter member.

Claim 3 (Original): The vaporizer according to claim 1, wherein the heat transfer member comprises a plurality of heat transfer members.

Claim 4 (Original): The vaporizer according to claim 1, further comprising a heater incorporated in the heat transfer member.

Claims 5-7 (Canceled).

Claim 8 (Currently Amended): The vaporizer according to claim [[35]] 1, wherein the spacer a space is disposed ~~between the filter member and the shield plate~~ to form a heated gas passage, between the filter member and the shield plate, for delivering the gas material to the gas outlet.

Claim 9 (Original): The vaporizer according to claim 8, wherein a clearance is formed around the shield plate to allow the vaporizing chamber to communicate with the gas passage.

Claim 10 (Original): The vaporizer according to claim 8, wherein an opening is formed in the shield plate to allow the vaporizing chamber to communicate with the gas passage.

Claim 11 (Original): The vaporizer according to claim 10, wherein the opening comprises a slit, which is bent in a thickness direction of the shield plate.

Claim 12 (Currently Amended): The vaporizer according to claim [[35]] 1, further comprising a control member configured to control temperature of the second heating portion based on temperature of the filter member or the shield plate.

Claim 13 (Previously Presented): The vaporizer according to 12, wherein the temperature of the filter member or the shield plate is set at substantially the same as the temperature of the first heating portion.

Claim 14 (Previously Presented): The vaporizer according to claim 12, further comprising a temperature sensor disposed at the shield plate, wherein the control member is configured to control the temperature of the second heating portion based on a signal detected by the sensor.

Claim 15 (Currently Amended): The vaporizer according to claim [[35]] 1, further comprising a heater incorporated in the shield plate.

Claim 16 (Previously Presented): The vaporizer according to claim 38, wherein the first heating portion comprises a heater embedded in a wall of the vaporizing chamber.

Claim 17 (Currently Amended): A vaporizer comprising:

a vaporizing chamber including a vaporizing surface configured to vaporize a liquid material;

a spray portion configured to spray the liquid material in the vaporizing chamber;

a delivery part including a gas outlet to deliver a gas material generated inside the vaporizing chamber to a gas feed line source material supply line; and

a heating portion configured to heat the vaporizer,

wherein the delivery part comprises

a plate member covering the gas outlet and a wall around the gas outlet, with a gap therebetween to form a communication clearance, the plate member having a first face facing the vaporizing chamber and a second face opposite thereto and facing the wall such that a gas passage connecting the vaporizing chamber to the gas outlet is formed between the second face plate member and the wall,

a heater embedded in the plate member; and configured to heat the gas material flowing through the gas passage,

a plurality of heat transfer columns extending from the second face of the plate member to the wall and configured to transfer heat to the gas material flowing through the gas passage to vaporize residual mist, the heat transfer columns being disposed and distributed in the gas passage to serve as a fluid baffle and set in thermal contact with the wall to transfer heat from the heater,

wherein the plurality of columns are disposed to prevent the gas material, which flows toward the gas outlet, from directly reaching the gas outlet while traveling in a straight path from the communication clearance.

Claim 18 (Canceled).

Claim 19 (Currently Amended): The vaporizer according to claim [[18]] 17, wherein the first face of the plate member is plate member has a surface facing and directly exposed to the vaporizing chamber and configured to serve as a vaporizing surface for vaporizing the liquid material.

Claims 20-21 (Canceled).

Claim 22 (Previously Presented): The vaporizer according to claim 17, further comprising a temperature control section configured to control temperature of the heater based on temperature of the plate member.

Claim 23 (Previously Presented): The vaporizer according to claim 17, further comprising a filter member disposed between the gas outlet and the plate member and configured to allow the gas material to pass therethrough.

Claim 24 (Canceled).

Claim 25 (Original): An apparatus for performing a semiconductor process on a target substrate, the apparatus comprising:
a process chamber configured to accommodate the target substrate; and
a gas supply system configured to supply a process gas into the process chamber,
wherein the gas supply system comprises the vaporizer according to claim 1.

Claim 26 (Canceled).

Claim 27 (Original): An apparatus for performing a semiconductor process on a target substrate, the apparatus comprising:

a process chamber configured to accommodate the target substrate; and
a gas supply system configured to supply a process gas into the process chamber,
wherein the gas supply system comprises the vaporizer according to claim 17.

Claim 28-33 (Canceled).

Claim 34 (Currently Amended): The vaporizer according to claim [[35]] 1, wherein the shield plate is interposed between the vaporizing chamber and the filter member to prevent the gas material, which flows toward the gas outlet, from directly reaching the filter member while traveling in a straight path from the vaporizing chamber.

Claims 35-37 (Canceled).

Claim 38 (Previously Presented): The vaporizer according to claim 1, wherein the heat transfer member comprises columns disposed on the wall of the delivery part.

Claim 39 (Currently Amended): The vaporizer according to claim [[35]] 1, wherein the second heating portion comprises a heater embedded in the wall of the delivery part.

Claim 40 (Currently Amended): The vaporizer according to claim [[35]] 1, wherein the heat transfer member is formed to protrude from the wall of the delivery part.

Claim 41 (Canceled).

Claim 42 (Currently Amended): The vaporizer according to claim [[35]] 1, wherein the delivery part further comprises an exhaust passage.

Claim 43 (Previously Presented): The vaporizer according to claim 9, wherein the shield plate is disposed to cover the filter member entirely in plane.

Claim 44 (Currently Amended): The vaporizer according to claim 17, wherein the plurality of heat transfer columns are arrayed in a staggered pattern.

Claim 45 (Previously Presented): The vaporizer according to claim 17, further comprising a heating member embedded in the wall.

Claim 46 (New): The vaporizer according to claim 17, wherein the plate member is includes an attachment portion extending from the second face and attached to a delivery part wall of the delivery part.

Claim 47 (New): The vaporizer according to claim 46, wherein the attachment portion is fitted in a recessed portion formed in the delivery part wall.

Claim 48 (New): The vaporizer according to claim 46, wherein the delivery part is attached to the vaporizing chamber.

Claim 49 (New): The vaporizer according to claim 17, wherein the heat transfer columns are arranged to serve as a fluid baffle and prevent the gas material, which flows toward the gas outlet, from directly reaching the gas outlet while traveling in a straight path from the communication clearance.